Syllabus

Alignments

FORS 3370

Forensic Science

Spring 2024 Syllabus

Course Description

An introduction to forensic science, emphasizing the multi-disciplinary approach required to document, understand, and solve forensic problems. Topics for this course include those on general science and applying scientific methods to answer questions of interest to the legal system. Case studies will be used to illustrate how science was used to solve crimes.

Catalog Description: Introduction to Forensic Science (3-0). This is a course exploring various areas of forensic science. Students will participate in discussion and hands-on assignments to gain a real world understanding of what forensic science entails. Upon completion of this course, students should be able to: 1) Define and distinguish multiple disciplines of forensic science; 2) Understand types of evidence and how they can affect the criminal justice system; 3) Demonstrate an understanding of the fundamental elements and techniques utilized in forensic science; 4) Apply the scientific method to the analysis of various types of physical evidence; 5) Identify the capabilities and limitations of crime laboratories; 6) Learn the responsibilities of a forensic scientist.

Textbook: Criminalistics, Richard Saferstein, 12th edition, ISBN: 978-0-134-47759-6 (paperback), or e-edition

Other Required Material: internet access via laptop, tablet, or phone for use in class. You will need to be able to read .pdf files, use a word processor, watch videos, and download/install software.

Course Objectives

- The student will learn concepts and vocabulary related to forensic science by completing the various activities. Students will explore several important concepts that of of concern to us as citizens, educators, and scientists.They will do this by completing class activities which may include collecting visual data as photographs.
- The student will properly apply the scientific method to research a problem and formulate conclusions. All sciences share a common methodology of attaining knowledge that sees to eliminate bias and prejudice in research. You will learn the difference between a hypothesis and a scientific theory.
- The student will synthesize information from external sources and personal observations and incorporate them into class activities. Learn how scientists think. Scientists observe, question, and analyze, and you will be expected to do the same.
- The student will investigate real world examples by completing a variety of activities.
- The student will practice independent thinking. Students will critically evaluate the information they receive regarding forensic science issues so they can make informed and independent decisions.
- The student will communicate and defend their methodology and results using writing, graphical, and electronic forms in the class.
- The student will demonstrate their ability to download and use electronic resources and digital software such as Excel, various browser plugins and animations to support learning.

Course Expectations

This course is 100% in person that incorporates active learning. Active learning is different than sitting in a classroom listening to a lecture. Active learning may require a more intensive effort on the part of the student because you will have to gather information on your own as directed by the instructor instead of listening to a lecture.

Coursework is laid out in Learning Modules and should be accessed via the Learning Module link. The Module page includes not only links to each individual module and graded work but also to the module introduction as well as additional instructions related to that particular module. You correspond with the instructor and with other students via the Email link when not in class. Your e-mail message will only go to those people you designate. In contrast, postings using the Discussion link are posted so that everyone in the class can read the posting and respond.

The Discussion tool will be used for some assignments. Feel free to initiate

discussions if you have questions or see something of interest to the class as a whole. I may edit and organize discussion postings as needed. If you have questions, there are several means in which to get an answer: send the instructor a message, or, if you are having technical difficulties, contact the Help Desk.

We will be taking advantage of internet resources and software in this course, so expect to download and install needed software and to use programs such as Excel, your computer imaging processing program (such as Paint or Preview), take digital photographs, and install web browser plugins as needed. If you aren't comfortable with your computer please expect the activities to take extra time while you are learning. Don't hesitate to contact the Help Desk for technical assistance. They are trained in answering those types of questions. The computer labs in the library and UGLC have the latest software and browser plugins.

Assessment

Grades will be based on the following criteria and will be assigned using the

scale:

- A = 90- 100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = < 60%

Procedures/Policies

- Class work will be posted and should be accessed under the **Learning Modules** tab. **It is important to come to class and to log in every week**.
- I will typically visit the electronic classroom daily and will try to acknowledge all e-mails within 2-4 hours during the workweek until 5pm. Questions and messages posted after 5 pm or over the weekend may not be acknowledged until the following day or during class time.
- Extra credit, if/when offered, is offered to the entire class, not to individuals.
- For technical difficulties please contact the Help Desk. I may also be able to help you trouble-shoot.
- I make every attempt to present this class free of errors, but they do happen. If you see an error (due date, quiz question, etc.) please email me and let me know so I can fix it ASAP.

- Group work: some of the activities require working in small (2-3 people) groups to assist collecting data. Each member is expected to do their own data collection that includes photographs, data, summaries and conclusions. Each member of the group is responsible for turning in their own work and making note in the comments who their group members were.
- **Late Work policy:** Late work will be accepted up until midnight the night before the next class unless otherwise noted. Module exams must be completed by the due date and may not be made up. Check the schedule for the dates.
- Computer problems are NOT an excuse for late work. It is good practice to complete work as it is assigned. Also plan to have a back-up computer or internet access location (library, computer lab, etc.) in case something happens at your primary location.
- **Incompletes**. The grade of I is given for passable work that could not be completed due to circumstances beyond the student's control that occurs after the last day to withdraw from the course.
- **Class Conduct.** Professionalism in class will be expected at all times. Disrespectful or rude comments will not be tolerated and could lead to removal from access to class.
- **Attendance**.Your attendance is based on your participation in class and submitting work on time. Please review the late policy carefully. There are no exceptions.

Course Outline

Topic Description	Reading	Activities & Due Dates
Learning Module 1 Introduction to Forensic Science	Chapter 1	Discussion 1: CER: initial post due Jan 18, 2 replies by Jan 21 Assignment 1: Process of Science, in class activity due Jan 23 Assignment 2: Locard's Exchange Principle due Jan 25
Learning Module 2 The Crime Scene	Chapter 2	Assignment 3: Digital Photography: due Jan 30 Assignment 4: Crime Scene Sketching due Feb 2 Discussion 2: Case Study—The Nature of Science due Feb 5/6 Discussion 3: Who Killed Barry? due Feb 7/8
Learning Module 3 Physical Evidence	Chapters 3, 8 & 9	Assignment 5: Deadly Picnic due Feb 13 Assignment 6: Probabitive value of Evidence due Feb 15 Assignment 7: Footprints due Feb 20

Learning Module 4 Fingerprints	Chapter 6	Assignment 8: Fingerprints due Feb 25 Discussion 4: Fingerprints due Feb 22/23 Assignment 9: Forensics on Trial Feb 27
Exam 1		Online: No class meeting Feb 28
Learning Module 5 Glass Examination	Chapter 10	Assignment 10: Glass Fracture Analysis due Mar 5 Assignment 11: Snell's Law due Mar 7 Assignment 11a: Glass Analysis due Mar 19 Assignment 12: Glass Density due Mar 21
Learning Module 6 Hairs & Fibers	Chapter 11	Hairs & Fibers Intro Assignment 13: Hair due Mar 26 Assignment 14: Fiber Burn Test Results due Mar 28
Learning Module 7 Metals, Paint, & Soil	Chapter 14	Metals, Paint & Soil Intro Discussion 5: Enrique Camarena Case Study due Apr 1/2 Assignment 15: Soil due Apr 4
Learning Module 8 Fire Investigation	Chapter 17	Fire Investigation Intro Assignment 16: Fire Lab Interactive due Apr 9 Assignment 17: Case Study: Burning down the House due Apr 11
Exam 2		Online: No class meeting Apr 15
Learning Module 9 Document Examination	Chapter 18	Document Examination Intro Handwriting Match Assignment 18: Rocky's Check due Apr 22 Discussion 6: Handwriting Analysis due Apr 23/24
Learning Module 10 Computer Forensics	Chapter 19	Computer Forensics Intro Cryptography: in-class activity Apr 29 Assignment 19: Cybersecurity 101 due May 2
Final Exam		Online: No class meeting, due May 6

NOTE: This schedule is subject to change based on the needs of the class. You will be notified of all changes through email in Blackboard and in class.

Assessment & Grading Criteria

Assignments: 50%:

Assignments will be graded on a 10 point scale. The grade will be based both on content and on completeness of the response (see below).

9-10	The activity is complete and correct. It shows insight and careful reflection on the topic. It is well written with complete sentences that respond to the questions.
8-9	The activity is essentially complete. The learner shows understanding of the topic although there are minor errors they are not conceptual in nature.
7-8	The activity is missing one or two answers or there are complete or there are errors in the work that reflect a misconception or lack of understanding.
6-7	The activity is lacking more than one answer. Work is poorly done or displayed and does not demonstrate understanding of topics.
<6	Does not effectively address the activity, major portions are missing.

Class Participation & Discussions: 20%

Discussions will provide you with an opportunity to:

a. discuss topics and issues with classmates,
b. ask questions of the instructor or fellow classmates, and
c. will be used by the instructor to assess your attendance and participation.

Module Exams: 20%

Two exams will be given (50) questions based off readings in the book (knowledge and comprehension: explain, identify, observe, summarize). These will be online. You will have two attempts, highest grade will count.

Final Exam: 10%

A comprehensive final exam will be given.

UTEP Policies for Students

Informed Consent: Some individuals may choose to disclose personal information during class. Therefore, it is important that all classmates agree not to discuss or write about what others have discussed in class.

Disability Statement: Services for students with disabilities are provided through the Academic Support Center's Disability Services Office. Some examples of the assistance provided are:

audio materials for the blind or dyslexic, note takers, readers, campus guides, audio recorders, a quiet testing area, and undergraduate academic tutors. In order to qualify for these services, documentation must be provided by qualified professionals on an annual basis. Disability Services forms are available in the Academic Support Center.

Military Statement: If you are a military student with the potential of being called into military service and/or training during the course of the semester you are encouraged to contact the instructor regarding these matters.

Professionalism : Students are learning professional skills and are expected to engage in classroom discussions, complete reading assignments and turn in assignments in a timely fashion as befitting professional behavior.

Scholarly Writing: Use clear college level writing with correct spelling and grammar for all assignments. If you need help in writing, check with the UTEP Writing Center.

Integrated Use of Technology: Because this is a course that makes use of the internet, I am making the assumption that you are comfortable utilizing a computer, and navigating various software programs like Microsoft Word, Powerpoint. If you have any questions about computer requirements see the *Student Resources* in Blackboard.

Need Help?

1. Ask in class or post a question to the Discussion Board. There is no such thing as a dumb question.
2. Post a question as a Blackboard email to your instructor.
3. Click on the Help button in Blackboard.
4. If the Blackboard system goes down or you have other technical questions, contact the UTEP Help Desk

Academic Integrity Policy and Procedures: Each student shall observe standards of honesty and integrity in academic work completed at UTEP. Students may be penalized for violations of the Academic Integrity policy. Please refer to the Academic Integrity section in the current UTEP Catalog. (Clearly specify what you consider to be violations of academic honesty.)

Caveats: The schedule and procedures in this course are subject to change in the event of extenuating circumstances.

Code of Civility: In order to promote a positive, professional atmosphere among students, faculty and staff, the following Code of Civility has been developed:

- **Respect:** Treat all students, faculty, staff and property with respect and in a courteous and professional manner. This includes all communications, whether verbal or written. Let your actions reflect pride in yourself, your university, and your profession.
- **Kindness:** A kind word and gentle voice go a long way. Refrain from using profanity, insulting slang remarks, or making disparaging comments. Consider another person's feelings. Be nice.
- **Truth:** Exhibit honesty and integrity in your dealings with fellow students, faculty and staff members. Don’t lie, don't cheat, and don’t steal.
- **Responsibility:** Take responsibility for your actions. This includes gracefully accepting the consequences of your behavior.
- **Cooperation:** Exhibit a cooperative manner when dealing with students, faculty and staff so we may all work towards our common goals and mission.
- **Acceptance:** Accept differences in others, as they accept differences in you. This includes diversity in opinions, beliefs and ideas and everything else that makes us unique individuals.
- **Professionalism:** Always conduct yourself in a manner that will bring pride to

your profession, to the University of Texas at El Paso, and, most importantly, to yourself.